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Question 1

Question Type: MultipleChoice

P routers forward packets based on the _____.

Options:

A- flow label

B- B. VPN label

C- C. LSP label

D- D. inner label

Answer:

C

Explanation:

P routers forward packets based on the LSP label. The LSP label is the label that corresponds to the label-switched path (LSP) that is established between two PE routers in an MPLS network. The LSP label is also called the outer label or the transport label, because it is

used to transport packets across the MPLS core network. P routers are also called LSRs (label switch routers) or transit routers, because they switch packets based on their labels or remove the labels. P routers do not need to look at the IP header or any other information in the packet, except for the top label in the label stack. P routers perform one of three possible operations on labels: swap, pop, or PHP (penultimate hop popping). In a swap operation, the label is swapped with a new label, and the packet is forwarded along the path associated with the new label. In a pop operation, the label is removed from the packet, and the packet is forwarded based on its IP header or another label in the stack. In a PHP operation, the label is removed from the packet at the last P router before reaching the egress PE router, and the packet is forwarded without any label to the egress PE router.

The LSP label is different from other types of labels that may be used in MPLS networks, such as VPN labels or service labels. These labels are used to identify different VPNs or services that run over MPLS networks, such as Layer 2 VPNs, Layer 3 VPNs, traffic engineering, or QoS. These labels are also called inner labels or payload labels, because they are related to the payload of the packet. These labels are not used by P routers for forwarding decisions, but only by PE routers for delivering packets to their destinations.

Therefore, the answer is C.

Question 2

Question Type: **MultipleChoice**

An IS-IS router has been assigned the NSAP address: 49.00F0.0100.5012.3010.00.

What is the Area ID to which the router belongs?

Options:

A- 49.00F0

B- 49.00F0.0100

C- 5012.3010.00

D- 00F0 0100

Answer:

B

Explanation:

The Area ID to which the router belongs is 49.00F0.0100. The Area ID is a variable-length field in the NSAP address that identifies the area to which the router belongs. The Area ID can be between 1 and 13 bytes long, but it must start and end with an octet (8 bits). The NSAP address is composed of three parts: the authority and format identifier (AFI), the area ID, and the system ID. The AFI is a one-octet field that indicates the format and authority of the rest of the address. The system ID is a fixed-length field of six octets that uniquely identifies the router within an area. The NSAP address also has a network selector (NSEL) field, which is a one-octet field that identifies the network layer service to which a packet should be sent. For IS-IS routers, the NSEL must always be 00.

In this question, the NSAP address is 49.00F0.0100.5012.3010.00. This means that:

The AFI is 49, which indicates a private address.

The Area ID is 00F0.0100, which is four octets long and starts and ends with an octet.

The system ID is 5012.3010, which is six octets long and identifies the router within the area.

The NSEL is 00, which indicates IS-IS.

Therefore, the answer is B.

Question 3

Question Type: MultipleChoice

What network information is, without additional configuration, shared between two iBGP neighbors by default?

Options:

A- BGP routes learned from an OSPF neighbor

B- IP address information of loopback interfaces

C- BGP routes learned from eBGP neighbors

D- IP address information from all directly connected interfaces

Answer:

C

Explanation:

iBGP works by exchanging routing information between two or more routers within an AS. Each router sends its own routing table to its neighbors, which contains information about the networks it knows and how they can be reached from that router. By default, iBGP neighbors only share BGP routes learned from eBGP neighbors, which are routers in different ASes. This is because iBGP assumes that all routers within an AS have consistent internal routing information provided by an IGP, such as OSPF or IS-IS. Therefore, iBGP neighbors do not need to share IP address information of loopback interfaces or directly connected interfaces, unless explicitly configured to do so by using commands such as neighbor update-source or network.

Question 4

Question Type: MultipleChoice

Which operating system is used in Ericsson Router 6000 products?

Options:

A- SE-OS

B- ERS

C- ERS

D- IPOS

E- Junos

Answer:

C

Explanation:

The operating system used in Ericsson Router 6000 products is ERS (Ericsson Router Software). ERS is based on IPOS (IP Operating System), which is a common operating system for Ericsson's IP portfolio. ERS provides advanced features and functionality for IP transport, such as MPLS, Segment Routing, QoS, IPSec, synchronization, SDN, and more. ERS also supports seamless integration with Ericsson Radio System and Ericsson Network Manager.

Question 5

Question Type: MultipleChoice

Which two statements are true about link-state routing protocols? (Choose two.)

Options:

A- The advertisement exchange is mainly triggered by a change in the network.

B- Each router uses a reliable update mechanism to exchange topology information with its neighbors.

C Link-state routing protocols mainly use hop-counts to determine the link cost

D- A distance vector algorithm is very processor intensive compared to Dijkstra's algorithm.

Answer:

A, B

Explanation:

Link-state routing protocols are one of the two main classes of routing protocols used in packet switching networks for computer communications, the other being distance-vector routing protocols. Examples of link-state routing protocols include Open Shortest Path First (OSPF) and Intermediate System to Intermediate System (IS-IS). The basic concept of link-state routing is that every node constructs a map of the connectivity to the network, in the form of a graph, showing which nodes are connected to which other nodes. Each node then independently calculates the next best logical path from it to every possible destination in the network. Each collection of best paths will then form each node's routing table.

Two statements that are true about link-state routing protocols are:

The advertisement exchange is mainly triggered by a change in the network. Link-state routing protocols use a flooding mechanism to distribute information about the network topology to all routers in the same area or domain. This information is encapsulated in link-state packets (LSPs) or link-state advertisements (LSAs), which contain information about the router, its directly connected links, and the state of those links. LSPs or LSAs are sent only when there is a change in the topology, such as a link failure or recovery, or when a periodic refresh timer expires. This way, link-state routing protocols can quickly adapt to network changes and maintain an accurate and consistent view of the network.

Each router uses a reliable update mechanism to exchange topology information with its neighbors. Link-state routing protocols use a reliable update mechanism to ensure that all routers receive and acknowledge the LSPs or LSAs sent by their neighbors. This mechanism involves sending hello messages to establish and maintain adjacencies with neighbors, sending acknowledgment messages to confirm the receipt of LSPs or LSAs, and requesting missing or outdated LSPs or LSAs from neighbors. This mechanism ensures that all routers have a synchronized database of LSPs or LSAs, which is used to build a complete network connectivity map and to calculate the shortest path to destinations.

Question 6

Question Type: MultipleChoice

Review the exhibit.

Network	Next Hop
0.0.0.0/0	10.126.131.254
192.168.1.0/24	10.126.131.253
192.168.1.128/25	10.126.131.252
192.168.1.64/26	10.126.131.251
192.168.0.65/32	10.126.131.250
192.168.1.64/27	10.126.131.249

Given the routing table shown in the exhibit, what is the next-hop to reach the host 192.168.1.129?

Options:

A- 10.126.131.251

B- 10.126.131.252

C- 10.126.131.250

D- 10.126.131.248

Answer:

C

Explanation:

The next-hop to reach the host 192.168.1.129 is 10.126.131.250. This can be determined by looking at the routing table in the exhibit. The host 192.168.1.129 falls within the range of the network 192.168.1.64/26, which has a next-hop of 10.126.131.250.Reference:Ericsson IP Networking - IP Addressing,Software Installation and Upgrade Overview (Junos OS)

Question 7

Question Type: MultipleChoice

Which two statements are true about priority queuing (PQ)? (Choose two.)

Options:

A- Traffic in the highest priority queue will experience the least amount of jitter and delay compared to traffic in the other queues.

B- Traffic in the highest priority queue is only reserved for voice traffic.

C- Traffic in lower priority queues can be starved of bandwidth.

D- Traffic in all queues are always guaranteed a minimum bandwidth.

Answer:

A, C

Explanation:

Priority queuing (PQ) is a queuing method that establishes four interface output queues that serve different priority levels: high, medium, normal, and low. Traffic in the highest priority queue will experience the least amount of jitter and delay compared to traffic in the other queues, because PQ always services the higher-priority queues first. However, this can also cause traffic in lower priority queues to be starved of bandwidth, especially if the highest priority queue is oversubscribed. Traffic in the highest priority queue is not only reserved for voice traffic, but can also include network control and routing traffic. Traffic in all queues are not always guaranteed a minimum bandwidth, because PQ does not provide any bandwidth reservation mechanism.Reference:Quality of Service (QoS) Queues and Queuing Explained,Chapter: Configuring Priority Queueing - Cisco

Question 8

Question Type: MultipleChoice

Which statement is true about LDP?

Options:

A- LDP and IGP both exchange their databases every 60 seconds.

B- LDP and IGP both exchange their databases every 30 seconds.

C- LDP relies on IGP for all routing-related decisions.

D- LDP performs routing functions along with IGP.

Answer:

C

Explanation:

LDP relies on IGP for all routing-related decisions. LDP is a protocol that distributes labels in an MPLS environment, but it does not perform any routing functions. LDP uses the underlying routing information provided by an IGP, such as OSPF or IS-IS, to forward label packets. LDP and IGP do not exchange their databases at regular intervals, but rather use hello messages to maintain adjacencies and sessions.Reference:Ericsson IP Networking - Routing Protocols,Label Distribution Protocol - Wikipedia

Question 9

Question Type: MultipleChoice

Which action will influence BGP route selection within your AS?

Options:

A- reducing number of hops in the network

B- changing the default value of the local preference

C- changing the default link metric

D- changing the administrative distance for eBGP

Answer:

B

Explanation:

The action that will influence BGP route selection within your AS is changing the default value of the local preference attribute. The local preference attribute is used to indicate the preference of a path among multiple paths learned from different external BGP neighbors or autonomous systems (ASes). The higher the local preference value, the more preferred the path is within your AS, and vice versa. The default value of local preference is 100, but you can change it using route maps or other configuration methods on your BGP routers.Reference:Ericsson IP Networking - Routing Protocols,BGP Attributes and Path Selection,BGP Local Preference Attribute: Controlling Traffic Like a Pro

Question 10

Question Type: MultipleChoice

Which network is reserved as a private network according to RFC1918?

Options:

A- 172.16.1.0/9

B- 10.254.1.0/24

C- 193.168.1.0/24

D- 172.15.1.0/24

Answer:

B

Explanation:

According to RFC1918, there are three network blocks reserved as private networks that are not allocated to any specific organization and are not routable on the public Internet. These are:

10.0.0.0/8 (10.0.0.0 - 10.255.255.255)

172.16.0.0/12 (172.16.0.0 - 172.31.255.255)

192.168.0.0/16 (192.168.0.0 - 192.168.255.255)

Out of these, only option B (10.254.1.0/24) falls within one of the private network blocks (10.0.0.0/8). Option A (172.16.1.0/9) is not valid because it exceeds the /12 prefix length of the private network block (172.16.0.0/12). Option C (193.168.1.0/24) is not valid because it does not belong to any of the private network blocks, and is actually assigned to RIPE NCC as a public network block . Option D (172.15.1.0/24) is also not valid because it does not belong to any of the private network blocks, and is actually assigned to ARIN as a public network block .Reference:RFC 1918: Address Allocation for Private Internets,Private network - Wikipedia, [RIPE NCC IPv4 Address Space Chart], [ARIN WHOIS Database Search]

Question 11

Question Type: MultipleChoice

Within an IGP area, which two statements are correct? (Choose two.)

Options:

A- Routers summarize information they learn from neighbors.

B- Routers discard valid but inaccurate information from neighbors.

C- Routers advertise information about themselves.

D- Routers relay information delivered by neighbors.

Answer:

C, D

Explanation:

Within an IGP area, routers advertise information about themselves and relay information delivered by neighbors. This is how link-state routing protocols such as OSPF and IS-IS work. They flood information about the network topology to all routers in the same area or domain. That information is then used to build a complete network connectivity map and to calculate the shortest path to destinations. Routers do not summarize or discard information within an area, unless they are configured to do so by some filtering mechanism.Reference:Ericsson IP Networking - Routing Protocols,IP Routing: ISIS Configuration Guide - IS-IS Overview and Basic Configuration